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10/056,823	01/24/2002	Balakumar N. Kaushik	112-0011US	5155
29855 7590 02/06/2008 WONG, CABELLO, LUTSCH, RUTHERFORD & BRUCCULERI, L.L.P. 20333 SH 249 SUITE 600 HOUSTON, TX 77070				
			EXAMINER MEW, KEVIN D	
			ART UNIT 2616	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/056,823	Applicant(s) KAUSHIK ET AL.	
	Examiner Kevin Mew	Art Unit 2616	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 12, 16-18, 22-27, 36, 37, 41-46, 53, 57 and 58 is/are rejected.
- 7) ☒ Claim(s) 7-11, 13-15, 19-21, 28-35, 38-40, 47-52, 54-56 and 59-61 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11/10/2006</u> | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Response to Amendment

1. Applicant's Remarks/Arguments filed on 10/24/2007 have been fully considered. Claims 1-61 are currently pending.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 41, 42, 53 are rejected under 35 U.S.C. 102(e) as being anticipated by Jacobs et al. (US Publication 2006/0123066).

Regarding claim 41, Jacobs discloses a digital network (a network, Fig. 1), comprising:

a first switch (updating server, paragraph 0044) adapted to initiate a database update operation (initiates an update operation, paragraph 0044);

a second switch (a network server, paragraphs 0044) communicatively coupled to the first switch (communicatively coupled to the updating server, paragraph 0044), the second switch having database storage (the network server having a local cache 110, Fig. 1), a control circuit adapted to execute instructions (hardware executing software, paragraph 0025 and Fig. 1); and a storage (local cache, Fig. 1), readable by the control circuit (readable by the hardware of server 106) and having instructions for causing the control unit to:

receive a first message (receiving a update at a first network server) from a commit master (from an updating server, paragraph 0044);

detect the loss of the commit master (detecting loss of a master/master server crashed, paragraph 0052; note that updating server also corresponds to master server); and

resend the first message to each of a specified one or more devices (resending the update from the updating server to a second network server that was previously unavailable, paragraphs 0046, 0047, 0048) if the first message or a prior message from the commit master includes update data (if the update from the updating server includes current version of the data item that is not on the second network server, paragraph 0048), else aborting the update operation (the second network server will not request for the delta or update if the current version of the data item that is on the second network server, paragraphs 0048, 0049).

Regarding claim 42, Jacobs discloses the method of claims 1, 22, 41, further comprising updating an identified one or more entries in the Fiber Channel database with the update data (updating the version of the data item and the version number, paragraph 0049).

Regarding claim 53, Jacobs discloses the method of claim 1, wherein the act of receiving a first message further comprises verifying the update data received as part of the first message (verifying the current version and version number as part of the update, paragraph 0049).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 12, 18, 22-23, 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Jacobs et al. (US Publication 2006/0123066) in view of Soloway et al. (USP 6,819,654).

Regarding claim 1, Jacobs discloses a fault tolerant method to update a database (update a network server, paragraphs 0044, 0046), comprising:

receiving a first message (receiving a update at a first network server) from a commit master (from an updating server, paragraph 0044);

detecting the loss of the commit master (detecting loss of a master/master server crashed, paragraph 0052; note that updating server also corresponds to master server); and

resending the first message to each of a specified one or more devices (resending the update from the updating server to a second network server that was previously unavailable, paragraphs 0046, 0047, 0048) if the first message or a prior message from the commit master includes update data (if the update from the updating server includes current version of the data item that is not on the second network server, paragraph 0048), else aborting the update operation (the second network server will not request for the delta or update if the current version of the data item that is on the second network server, paragraphs 0048, 0049).

Jacobs does not explicitly show the database involved in the database update is a Fiber Channel database.

However, Soloway discloses a Fiber Channel database synchronization system between a primary storage system and a secondary storage system (col. 2, lines 5-32, col. 5, lines 63-67, col. 6, lines 1-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the database update system of Jacobs with the teaching of Soloway in showing a Fiber Channel database synchronization system between a primary storage system and a secondary storage system such that the database involved in the database update of Jacobs is a Fiber Channel database.

The motivation to do so is to provide a high performance, efficient, scalable and flexible circuit/packet switched topology by establishing multiple simultaneous point-to-point connections between nodes.

Regarding claim 18, Jacobs discloses the method of claim 1, wherein the act of resending the first message comprises:

identifying which of the specified one or more devices can receive the resent message (identifying the previously unavailable network server by having the updating periodically check to see if the network server has received the update, paragraph 0046); and

resending the first message to those identified one or more devices (resending the update from the updating server to a second network server that was previously unavailable, paragraphs 0046, 0047, 0048).

Regarding claim 22, Jacobs discloses a system (fiber channel storage system, col. 6, lines 42-67, element 23, Fig. 1), comprising:

a port for receiving and sending message signals (a port for receiving and sending messages at the server 106, Fig. 1);

a database storage for storing at least a portion of a database (a database storage 114, Fig. 1);

a control unit for executing program instructions (a server 106 executing software, paragraph 0025 and Fig. 1); and

storage (local cache, Fig. 1), readable by the control means (readable by the server 106), having instructions for causing the control unit to:

receive a first message (receiving a update at a first network server) from a commit master (from an updating server, paragraph 0044);

detect the loss of the commit master (detecting loss of a master/master server crashed, paragraph 0052; note that updating server also corresponds to master server); and

resend the first message to each of a specified one or more devices (resending the update from the updating server to a second network server that was previously unavailable, paragraphs 0046,

0047, 0048) if the first message or a prior message from the commit master includes update data (if the update from the updating server includes current version of the data item that is not on the second network server, paragraph 0048), else aborting the update operation (the second network server will not request for the delta or update if the current version of the data item that is on the second network server, paragraphs 0048, 0049).

Jacobs does not explicitly show the system involved is a Fiber Channel switch.

However, Soloway discloses a Fiber Channel database synchronization system between a primary storage system and a secondary storage system (col. 2, lines 5-32, col. 5, lines 63-67, col. 6, lines 1-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the database update system of Jacobs with the teaching of Soloway in showing a Fiber Channel database synchronization system between a primary storage system and a secondary storage system such that the system of Jacobs is a Fiber Channel database.

The motivation to do so is to provide a high performance, efficient, scalable and flexible circuit/packet switched topology by establishing multiple simultaneous point-to-point connections between nodes.

Regarding claims 2, 23, Jacobs discloses the method of claims 1, 22, further comprising updating an identified one or more entries in the Fiber Channel database with the update data (updating the version of the data item and the version number, paragraph 0049).

Regarding claim 12, Jacobs discloses the method of claim 1, wherein the act of receiving a first message further comprises verifying the update data received as part of the first message (verifying the current version and version number as part of the update, paragraph 0049).

Regarding claim 37, Jacobs discloses the method of claim 22, wherein the act of resending the first message comprises:

identifying which of the specified one or more devices can receive the resent message (identifying the previously unavailable network server by having the updating periodically check to see if the network server has received the update, paragraph 0046); and

resending the first message to those identified one or more devices (resending the update from the updating server to a second network server that was previously unavailable, paragraphs 0046, 0047, 0048).

4. Claims 3-6, 24-27, 43-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobs et al. (US Publication 2006/0123066) in view of Soloway et al. (USP 6,819,654), and in further view of Banks et al. (US Publication 2005/0018619).

Regarding claims 3-6, 24-27, 43-46, Jacobs and Soloway disclose all the aspects of the claimed invention set forth in the rejection of claims 2, 22, and 41 above, except fail to explicitly show the method of claim 2, wherein the Fiber Channel database comprises a zoning database, a name service database, a security database and a management database.

However, Banks discloses a Fiber Channel system that implements a zoning database wherein the zoning database provides name service, security and management (paragraphs 0016, 0037, 0054).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the modified database update system of Jacobs with the teaching of Banks in implementing a zoning database that provides a name service, management and security functions.

The motivation to do so is to allow the creation of segmentation or zones within a fabric so that devices coupled to the fabric can be subdivided into logical groups of devices without the need to physically reconfigure the network, and to dynamically and quickly adapt the configuration of devices to varying network needs.

5. Claims 16-17, 36, 57-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobs et al. (US Publication 2006/0123066) in view of Soloway et al. (USP 6,819,654), and in further view of Ofek et al. (USP 5,901,327).

Regarding claims 16-17, 36, 57-58, Jacobs and Soloway disclose all the aspects of the claimed invention set forth in the rejection of claims 2, 22, 41 above, except fail to explicitly show the method of claim 1, wherein the act of detecting the loss of the commit master comprises failing to receive a second message from the commit master within a specified time period.

However, Ofek discloses a remote data mirroring system that indicates a failure occurs if no response is received at a primary data storage system after a predetermined amount of time (col. 12, lines 42-61).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the modified database update system of Jacobs with the teaching of Ofek in indicating an update failure condition if no acknowledgement is received after a specified amount of time such that the combined database update system of Jacobs will comprise a detection means to detect the loss of the commit master comprises failing to receive a second message from the commit master within a specified time period.

The motivation to do so is to set a timeout period condition to indicate whether a data update failure occurs or not.

Response to Arguments

6. Applicant's arguments filed on 10/24/2007 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

7. Claims 7-11, 13-15, 19-21, 28-35, 38-40, 47-52, 54-56, 59-61 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 7, 28, 47, the method of claims 1, 22, 41, wherein the act of aborting comprises:

identifying which of the specified one or more devices can receive an abort message; and
sending the abort message to the identified one or more devices.

Regarding claims 8, 29, 48, wherein the act of sending the abort message comprises sending a Release Change Authorization message.

Regarding claims 9, 30, 49, wherein the act of receiving a first message comprises:
receiving an Acquire Change Authorization message; and
sending an accept message to the commit master.

Regarding claims 10, 31, 50, wherein the act of receiving a first message comprises:
receiving a Stage Fabric Configuration message; and
sending an accept message to the commit master.

Regarding claim 51, wherein the instructions to receive a Stage Fabric Configuration message further comprise instructions to verify the update data.

Regarding claims 11, 32, 52, wherein the act of receiving a first message comprises:
receiving an Update Fabric Configuration message; and
sending an accept message to the commit master.

Regarding claims 13, 33, 54, wherein the act of receiving a first message comprises:
receiving a first update message from a first switch and a second update message from a second switch;
accepting one of the first or second update messages; and
rejecting the other of the first or second update messages.

Regarding claims 19, 38, 59, further comprising:
receiving a second message from one of the identified one or more devices; and
aborting the update operation specified in the resent message.

Application/Control Number:
10/056,823
Art Unit: 2616

Page 13


Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin Mew
Work Group 2616


CHI PHAM
SUPERVISORY PATENT EXAMINER

2/4/08